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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,575	05/29/2001	Yukie Nakano	109639	3682

25944 7590 12/04/2003

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EXAMINER

THOMAS, ERIC W

ART UNIT PAPER NUMBER

2831

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/865,575		NAKANO ET AL	
	Examiner		Art Unit	
	Eric W Thomas		2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,10,12,14 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5, and 20 is/are rejected.
- 7) ☒ Claim(s) 10,12 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>21</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/7/03 has been entered.

Introduction

The allowability of claims 1, 3, 5, 10, 12, 14 and 20 have been withdrawn because of a newly discovered reference (JP 11-103022). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 3, 5, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over (JP 11-103022 ('022)) in view of Naito et al. (US 6,034,864).

Regarding claim 1, '022 discloses in fig. 1, a dielectric layer for use in a decoupling capacitor comprising particles, wherein an average particle diameter (R), in a direction parallel with the internal electrode layers, is larger than a thickness (d) of the dielectric layer, wherein a ration (R/d) between the average particle diameter (R) and the thickness (d) of the dielectric layer satisfies $1 < R/d < 3$ (see table), wherein the thickness (d) of the dielectric layer is less than 3 micrometers (see table), and wherein the internal electrode is separated by a distance of no more than the size of at least one particle of the particles.

'022 does not disclose decoupling capacitor comprises dielectric layers separate the internal electrode layers.

Naito et al. teach that it is known in the capacitor art to form a decoupling capacitor from internal electrodes (see fig. 2A element 33-34) wherein the internal electrodes are separated by dielectric layers (32).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made incorporate the dielectric material as disclosed in '022 into a decoupling capacitor having internal electrodes, wherein the dielectric layers separate

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the internal electrode layers, since such a modification provides a decoupling capacitor for the dielectric material to be used in, reduce the size the capacitor (wherein the high breakdown voltage is maintained), and provides a capacitor having low equivalent series inductance.

Regarding claim 3, '022 discloses the internal electrodes are formed from a material having a Ni main component.

Regarding claim 5, '022 discloses the claimed invention except for the internal electrodes comprising Ni as a main component having Fe segregated in the internal electrodes. Electrodes having Ni as a main component having Fe segregated in the internal electrodes are known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the internal electrodes of '022 using a nickel material having Fe segregated in the internal electrode, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 20, '022 discloses in fig. 1, a dielectric layer for use in a decoupling capacitor comprising particles, wherein an average particle diameter (R), in a direction parallel with the internal electrode layers, is larger than a thickness (d) of the dielectric layer, wherein a ration (R/d) between the average particle diameter (R) and the thickness (d) of the dielectric layer satisfies $1 < R/d < 3$ (see table), and wherein the internal electrode is separated by a distance of no more than the size of at least one particle of the particles.

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'022 does not disclose decoupling capacitor comprises internal electrode layers, and the dielectric layer separate the internal electrode layers.

Naito et al. teach that it is known in the capacitor art to form a decoupling capacitor from internal electrodes (see fig. 2A element 33-34) wherein the internal electrodes are separated by a dielectric layer (32).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made incorporate the dielectric material as disclosed in '022 into a decoupling capacitor having internal electrodes, wherein the dielectric layer separate the internal electrode layers, since such a modification provides a decoupling capacitor for the dielectric material to be used in, reduce the size the capacitor (wherein the high breakdown voltage is maintained), and provides a capacitor having low equivalent series inductance.

Allowable Subject Matter

5. Claims 10, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or fairly suggest (taken in combination with the other claimed features) the dielectric particles and a grain boundary phase, and an area ratio of the grain boundary phase in a section of the dielectric layer is 2 % or less (claim 10); the dielectric particles have a shell-core structure (claim 12); and the

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segregation phase contains at least two kinds of elements selected from the group consisting of Mn, Y, Si, Ca, V and W (claim 14).

Conclusion

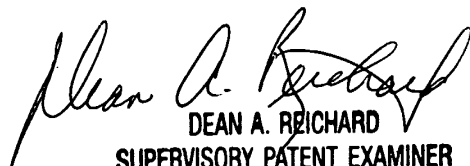
In order to ensure full consideration of any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116 which will be strictly enforced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is (703) 305-0878. The examiner can normally be reached on Mon & Sat 9:00AM - 9:30PM; Tues-Fri 5:30PM-10:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 703-308-3682. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ewt

 12/1/03
DEAN A. REICHARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800